

AGENDA
CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE (CTCDC)
February 15, 2007 Meeting
110 Grand Ave, Oakland, CA 92110
TIME 9:00 AM

Organization Items

- 1. Introduction**
- 2. Approval of Minutes (October 26, 2006 Meeting)**
- 3. Public Comments**

At this time, members of the public may comment on any item not appearing on the agenda. Matters presented under this item cannot be discussed or acted upon by the Committee at this time. For items appearing on the agenda, the public is invited to make comments at the time the item is considered by the Committee. Any person addressing the Committee will be limited to a maximum of five (5) minutes so that all interested parties have an opportunity to speak. When addressing Committee, please state your name, address, and business or organization you are representing for the record.

Agenda Items

4. Public Hearing

Prior to adopting rules and regulations prescribing uniform standards and specifications for all official traffic control devices placed pursuant to Section 21400 of the California Vehicle Code (CVC), the Department of Transportation is required to consult with local agencies and hold public hearings.

- | | | |
|-------|--|-----------------------------|
| 02-15 | Radar Guided Dynamic Curve Warning System
(Proposed Policy)- Page 5-6 | (Continued)
(Meis) |
| 06-7 | MUTCD 2003 Revision No. 1 (Pharmacy Signing) - Page 7-11
(Proposed to Adopt Pharmacy Signing in CA) | (Continued)
(Meis) |
| 06-8 | FHWA's Interim Approvals for Optional Use of (Flashing Yellow Arrow) Traffic Control Devices - Page 12-17 | (Continued)
(Mansourian) |
| 06-13 | Proposal to Amend Section 7B.08 and 7B.12
(School Zone Signs) - Page 18-19 | (Continued)
(Fisher) |
| 07-1 | Proposal to Revise the Sizes for the Supplement School Plaques
(S4-3, W16-7p, and W16-9p) signs - Page 20 | (Continued)
(Fisher) |
| 07-2 | Three (3) Proposed Roadway Regulatory Signs
(Request by Town of Apple Valley) - Page 21-24 | (Introduction)
(Fisher) |
| 07-3 | FHWA's Interim Approvals to Display More than Six Specific
Service Logo Panels for a Type of Service - Page 25-27 | (Continued)
(Meis) |
| 07-4 | Proposal to Adopt "Transporting Fireworks Prohibited" Sign
(County of San Bernardino) - Page 28 | (Continued)
(Babico) |

- 07-5 Proposal to Amend Section 2C.29 Advance Traffic Control Signs (W3-1, W3-2, W3-3, W3-4) (Requested by Caltrans) –[Page 29](#) (Introduction) (Meis)
- 07-6 Delete the symbolic NO TURN ON RED (R10-11) sign in the entire California MUTCD (Requested by Caltrans) –[Page 30](#) (Introduction) (Meis)
- 06-4 Older CA Traffic Safety Task Force (OCTSTF) Meeting Pending item from June 14, 2006 (Requested by Caltrans) –[Page 31](#) (Continued) (Meis)

5. Request for Experimentation

- 06-5 Clear The Way Signage (Drive Damaged Vehicle to Shoulder) (Experiment Request by CHP) –[Page 32-34](#) (Continued) (Whiteford)
- 07-7 Experimentation by Implementation of Two New School Site Loading Signs (Requested by City of San Francisco) –[Page 35-38](#) (Introduction) (Banks)
- 07-8 Experiment with Speed Limit Numbers on Green Traffic Signal Phase (Request by the City of Garden Grove) –[Page 39-44](#) (Introduction) (Bahadori)

6. Discussion Items

- 06-12 No Parking Signs (City of San Francisco) –[Page 45](#) (Continued) (Meis)
- 07-9 California MUTCD – Procedure for updating the document –[Page 46](#) (Introduction) (Meis)
- 07-10 Application of IRWLs at Yield controlled intersections –[Page 47](#) (Introduction) (Meis)

7. Information Items

- 00-4 Use of Raised Pavement Markers in Transverse Pattern –[Page 48](#) (Continued)
- 02-3 Right Edgeline –[Page 49](#) (Continued)

8. Tabled Item

- 03-14 Numbering of Signalized Intersections (Experiment Request by the CVAG) (Continued) (Babico)

9. Next Meeting**10. Adjourn**

ITEM UNDER EXPERIMENTATION

- | | | |
|-------|--|------------|
| 99-12 | Speed Striping For Smart Crosswalks
(Experiment Agency-Caltrans D7)
Status: Caltrans D7 will submit a report on the experiment | (Meis) |
| 01-4 | Tactile Pedestrian Indicator With Audible Information
(Experiment request by the City of Santa Cruz) | (Tanda) |
| 01-9 | IN-ROADWAY WARNING LIGHTS AT R/R CROSSINGS
(Experiment requests by CPUC in cooperation Kern Co. & City of Fresno) | (Meis) |
| 04-9 | Request to Experiment with “Watch The Road” Sign
(Experiment Agency – Los Angeles DOT) | (Bahadori) |
| 04-10 | Slow for the Cone Zone Sign
(Experiment Agency – Caltrans) | (Meis) |
| 04-12 | Requests for experimentation with “Flashing Yellow Arrows”
(Experiment Agency – City of Fullerton and Pasadena) | (Bahadori) |
| 05-10 | Proposal for the Watershed Boundary Signs
(City of San Diego) | (Meis) |

STATUS OF CALTRANS ACTION ON PAST ITEMS

Item 01-1 U-TURN SIGNAL HEADS INDICATOR
Caltrans will develop appropriate standards to ensure visibility and make the U-turn signal head indicator an official traffic control device by inclusion in the Caltrans Supplement.

Public Hearing:**02-15 Radar Guided Dynamic Curve Warning System**

The following policy in red color will allow the optional use of changeable message sign as a supplement to the stationary curve warning with advisory speed sign.

Section 2C.06 Horizontal Alignment Signs (W1-1 through W1-5, W1-11, W1-15)**Option:**

The horizontal alignment Turn (W1-1), Curve (W1-2), Reverse Turn (W1-3), Reverse Curve (W1-4), or Winding Road (W1-5) signs (see Figure 2C-1) may be used in advance of situations where the horizontal roadway alignment changes. A One-Direction Large Arrow (W1-6) sign (see Figure 2C-1 and Section 2C.09) may be used on the outside of the turn or curve.

If the change in horizontal alignment is 135 degrees or more, the Hairpin Curve (W1-11) sign (see Figure 2C-1) may be used.

If the change in horizontal alignment is approximately 270 degrees, such as on a cloverleaf interchange ramp, the 270-degree Loop (W1-15) sign (see Figure 2C-1) may be used.

Guidance:

The application of these signs should conform to Table 2C-5.

When the Hairpin Curve sign or the 270-degree Loop sign is installed, either a One-Direction Large Arrow (W1-6) sign or Chevron Alignment (W1-8) signs should be installed on the outside of the turn or curve.

Option:

An Advisory Speed (W13-1) plaque (see Section 2C.46) ~~may~~ **should** be used to indicate the speed for the change in horizontal alignment **when the advisory speed is less than the applicable speed limit**. The supplemental distance plaque NEXT XX km (NEXT XX MILES) (W7-3a) may be installed below the Winding Road sign where continuous roadway curves exist (see Section 2C.45). The combination Horizontal Alignment/Advisory Speed sign (see Section 2C.07), combination Horizontal Alignment/Intersection sign (see Section 2C.08), or the Curve Speed sign (see Section 2C.36) may also be used.

Standard:

When engineering judgment determines the need for a horizontal alignment sign, one of the W1-1 through W1-5, W1-10, W1-11 or W1-15 signs shall be used.

Option:

If the reduction in speed is 20 km/h (15 mph) or greater, a supplemental combination Horizontal Alignment/Advisory Speed sign ~~or Curve Speed (W13-5) sign~~ may be installed as near as practical to the point of curvature. If the reduction in speed is 40 km/h (25 mph) or greater, one or more additional Curve Speed signs may be installed along the curve.

A changeable message sign that displays to approaching drivers the speed at which they are traveling may be installed on the same post and in conjunction with any horizontal alignment sign that has an advisory speed.

Any horizontal alignment that has an advisory speed may be supplemented with a changeable message sign that displays the horizontal alignment sign, advisory speed and the approaching driver's speed.

Standard:

If a changeable message sign is installed, the legend YOUR SPEED XX (MPH) or such similar legend shall be shown. The color of the changeable message sign should be a yellow legend on a black background or the reverse of these colors.

Standard:

The advisory speed shall be determined in accordance with Section 2C.101(CA).

Guidance:

The Winding Road (W1-5) sign should be used where there is a series of turns or curves which requires driving caution, and where curve or turn signs would be too numerous to be effective. This sign should be erected in advance of the second curve of the winding section of highway. The first curve should be marked with a curve or turn sign and an Advisory Speed (W13-1) plaque. Where the winding road is 1.6 km (1 mi) or more in length, a Next Distance (W7-3a) plaque should supplement the W1-5 sign. Where any of the curves has an advisory speed that is 15 km/h (10 mph) or more below that of the first curve then it should be posted with a curve or turn sign and an Advisory Speed (W13-1) plaque.

Option:

The WINDING LEVEE ROAD (SW22-1(CA)) sign may be used to warn road users of the roadway alignment where the use of curve warning signs have been determined not to be appropriate.

The Speed/Distance (SW22-1A(CA)) plaque may be installed below the SW22-1(CA) sign. The Next Distance (W7-3a) plaque may be used when there is no advisory speed.

Standard:

If used, the Speed/Distance (SW22-1A(CA)) plaque shall be installed below the SW22-1(CA) sign.

Support:

See Figure 2C-1(CA) for the SW22-1(CA) and SW22-1A(CA) signs.

The following is an Example of the CMS Sign:



06-7 MUTCD 2003 Revision No. 1 (Pharmacy Signing)

The following proposed policy on pharmacy signing would be added to the CA-MUTCD. The proposed CA MUTCD language is shown in a red color. The policy will not allow installation of specific signs (Logo) on the local roadways system.



Current CA-MUTCD



Proposed CA-MUTCD

Section 2D.45 General Service Signs (D9 Series) (Current CA MUTCD)**Standard:**

Symbols and word message General Service legends shall not be intermixed on the same sign. ~~The Pharmacy (D9-20) sign shall only be used to indicate the availability of a pharmacy that is open, with a State-licensed pharmacist present and on duty, 24 hours per day, 7 days per week, and that is located within 4.8 km (3 mi) of an interchange on the Federal-aid system. The D9-20 sign shall have a 24 HR (D9-20a) plaque mounted below it.~~

Section 2D.45 General Service Signs (D9 Series) (Proposed in red color)**Standard:**

Symbols and word message General Service legends shall not be intermixed on the same sign. **The Pharmacy (D9-20) sign shall only be used to indicate the availability of a pharmacy that is open, with a State-licensed pharmacist present and on duty, 24 hours per day, 7 days per week, and that is located within 4.8 km (3 mi) of an interchange on the Federal-aid system. The D9-20 sign shall have a 24 HR (D9-20a) plaque mounted below it.**

Section 2E.51 General Service Signs (Current CA MUTCD)**Guidance:**

~~F. 24 Hour Pharmacy if a pharmacy is open, with a State-licensed pharmacist present and on duty, 24 hours per day, 7 days per week and is located within 4.8 km (3 mi) of an interchange on the Federal-aid system.~~

Standard:

Signs for services shall conform to the format for General Service signs (see Section 2D.45) and as specified herein. Letter and numeral sizes shall be as shown in Tables 2E-1 through 2E-4. No more than six general road user services shall be displayed on one sign, which includes any appended sign panels. General Service signs shall carry the legends for one or more of the following services: Food, Gas Fuel, Lodging, Camping, Phone, Hospital, 24-Hour Pharmacy, or Tourist Information.

The qualified services available shall be shown at specific locations on the sign. To provide flexibility for the future when the service might become available, the sign space normally reserved for a given service symbol or word shall be left blank when that service is not present.

Option:

Substitutions of other services for any of the services shown above may be made by placing the substitution in the lower right (four or six services) or extreme right (three services) portion of the sign panel. An action message or an interchange number may be used for symbol signs in the same manner as they are used for word message signs. The Diesel Fuel (D9-11) symbol or the LP-Gas Fuel (D9-15) symbol may be substituted for the symbol representing fuel or appended to such assemblies. The Tourist Information (D9-10) symbol or the 24-Hour Pharmacy (D9-20 and D9-20a) symbol may be substituted on any of the above configurations.

Section 2E.51 General Service Signs (Proposed in red color)

Guidance:

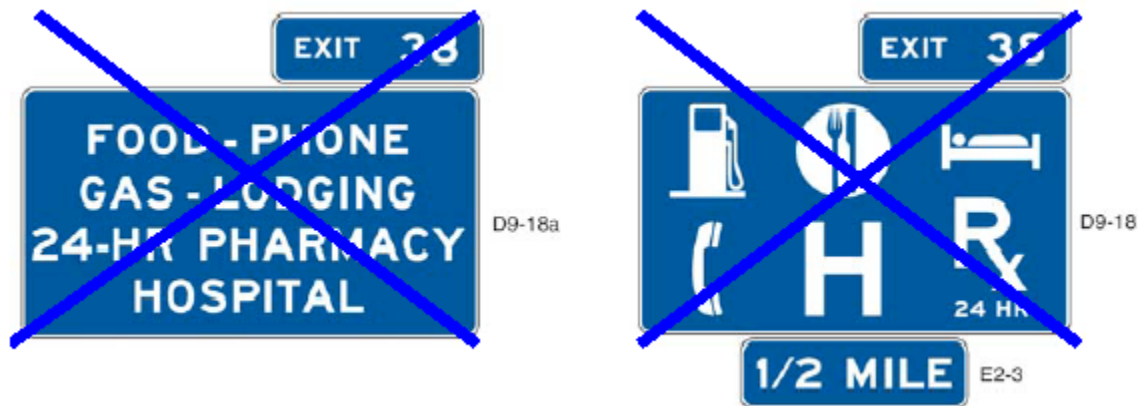
F. 24-Hour Pharmacy if a pharmacy is open, with a State-licensed pharmacist present and on duty, 24 hours per day, 7 days per week and is located within 4.8 km (3 mi) of an interchange on the Federalaid system.

Standard:

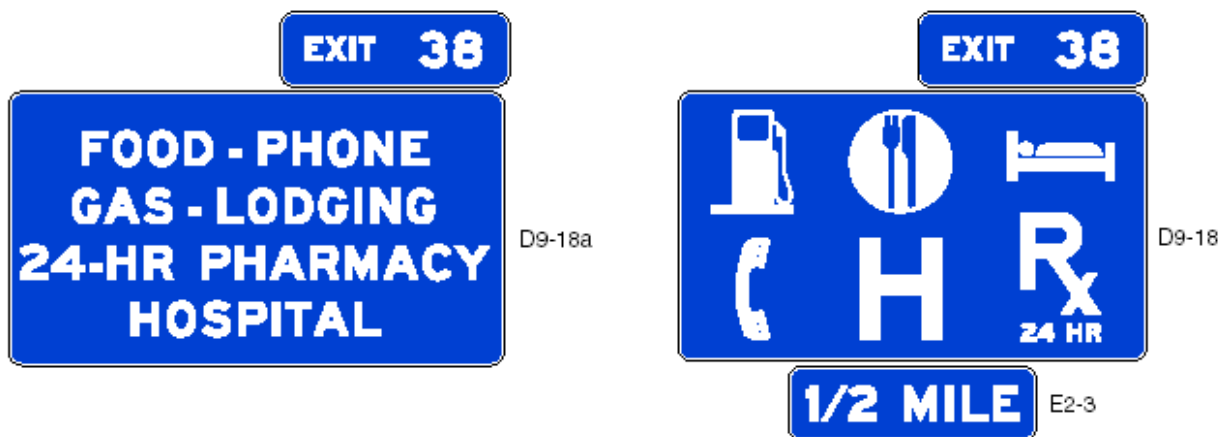
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Existing CA MUTCD



Proposed to add to the CA MUTCD

Section 2F-1 Eligibility (Current CA-MUTCD)

Standard:

Eligible service facilities shall comply with laws concerning the provisions of public accommodations without regard to race, religion, color, age, sex, or national origin, and laws concerning the licensing and approval of service facilities.

~~The attraction services shall include only facilities which have the primary purpose of providing amusement, historical, cultural, or leisure activities to the public.~~

~~Distances to eligible 24-hour pharmacies shall not exceed 4.8 km (3 mi) in any direction of an interchange on the Federal aid system.~~

Guidance:

Except as noted in the Option below, distances to eligible services other than pharmacies should not exceed 4.8 km (3 mi) in any direction.

Option:

~~If, within the 4.8 km (3 mi) limit, facilities for the services being considered other than pharmacies are not available or choose not to participate in the program, the limit of eligibility may be extended in 4.8 km (3 mi) increments until one or more facilities for the services being considered chooses to participate, or until 25 km (15 mi) is reached, whichever comes first.~~

Standard:

~~If State or local agencies elect to provide Specific Service signing for pharmacies, both of the following criteria shall be met for a pharmacy to qualify for signing:~~

~~A. The pharmacy shall be continuously operated 24 hours per day, 7 days per week, and shall have — a State-licensed pharmacist present and on duty at all times; and~~

~~B. The pharmacy shall be located within 4.8 km (3 mi) of an interchange on the Federal-aid system.~~

Section 2F-1 Eligibility **(Proposed to Amend as in red color)****Standard:**

Eligible service facilities shall comply with laws concerning the provisions of public accommodations without regard to race, religion, color, age, sex, or national origin, and laws concerning the licensing and approval of service facilities.

The attraction services shall include only facilities which have the primary purpose of providing amusement, historical, cultural, or leisure activities to the public.

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Guidance:

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If, within the 4.8 km (3 mi) limit, facilities for the services being considered other than pharmacies are not available or choose not to participate in the program, the limit of eligibility may be extended in 4.8 km (3 mi) increments until one or more facilities for the services being considered chooses to participate, or until 25 km (15 mi) is reached, whichever comes first.

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A. The pharmacy shall be continuously operated 24 hours per day, 7 days per week, and shall have a State-licensed pharmacist present and on duty at all times; and

B. The pharmacy shall be located within 4.8 km (3 mi) of an interchange on the Federal-aid system.

If used, the trailblazing signs on a local roadway system shall be D9-20 and D9-20a. The installation cost for the signs shall be the responsibility of the requisite.

Section 2F.02 Application **(Current CA-MUTCD)****Standard:**

The number of Specific Service signs along an approach to an interchange or intersection, regardless of the number of service types displayed, shall be limited to a maximum of four. In the

direction of traffic, successive Specific Service signs shall be ~~for 24-hour pharmacy~~, attraction, camping, lodging, food, and gas services, in that order.

A Specific Service sign shall display the word message ~~GAS~~ FUEL, FOOD, LODGING, CAMPING, ~~ATTRACTION~~, or ~~24-HOUR PHARMACY~~, an appropriate directional legend such as the word message EXIT XX, NEXT RIGHT, SECOND RIGHT, or directional arrows, and the related logo sign panels. No more than ~~three~~ two types of services shall be represented on any sign or sign assembly. If ~~three~~ two types of services are shown on one sign, then the logo panels shall be limited to ~~two~~ three for each service (for a total of six logo panels). Refer California Code of Regulations, Title 21, Division 2, Chapter 19, Section 2110(f). The legend and logo panels applicable to a service type shall be displayed such that the road user will not associate them with another service type on the same sign. No service type shall appear on more than one sign. The signs shall have a blue background, a white border, and white legends of upper-case letters, numbers, and arrows.

Section 2F.02 Application (Proposed to Amend as in red color)

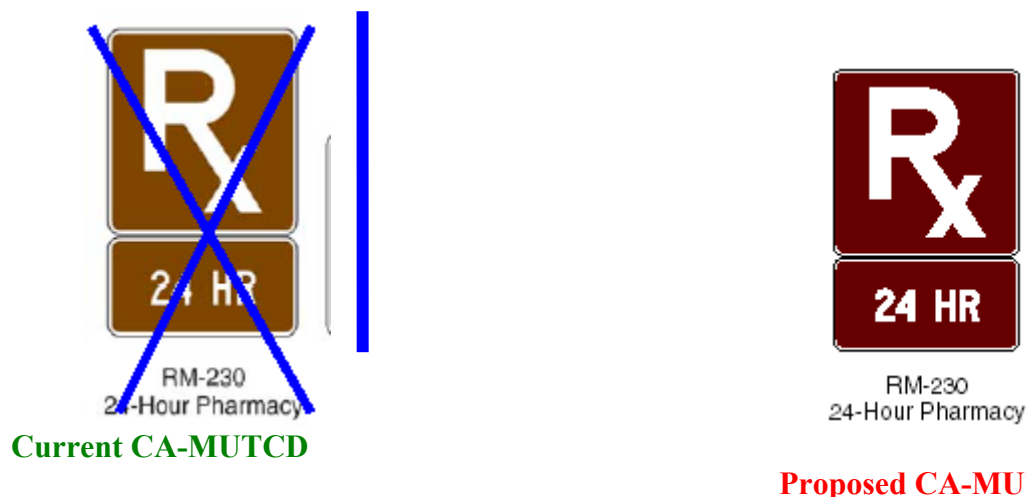
Standard:

The number of Specific Service signs along an approach to an interchange or intersection, regardless of the number of service types displayed, shall be limited to a maximum of four. In the direction of traffic, successive Specific Service signs shall be ~~for 24-hour pharmacy~~, attraction, camping, lodging, food, and gas services, in that order.

A Specific Service sign shall display the word message ~~GAS~~ FUEL, FOOD, LODGING, CAMPING, ~~ATTRACTION~~, or ~~24-HOUR PHARMACY~~, an appropriate directional legend such as the word message EXIT XX, NEXT RIGHT, SECOND RIGHT, or directional arrows, and the related logo sign panels. No more than ~~three~~ two types of services shall be represented on any sign or sign assembly. If ~~three~~ two types of services are shown on one sign, then the logo panels shall be limited to ~~two~~ three for each service (for a total of six logo panels). Refer California Code of Regulations, Title 21, Division 2, Chapter 19, Section 2110(f). The legend and logo panels applicable to a service type shall be displayed such that the road user will not associate them with another service type on the sign. No service type shall appear on more than one sign. The signs shall have a

Figure 2H-5. Recreational and Cultural Interest Area Symbol Signs

blue background, a white border, and white legends of upper-case letters, numbers, and arrows.



06-8 FHWA's Interim Approvals (IA) for Optional Use of Traffic Control Devices [Flashing Yellow Arrow (FYA)]**Background:**

Ahmad Rastegarpour, Caltrans ITS Branch, has concern with the guidelines issued by the FHWA for FYA. He raised his concern during the October 26, 2006 CTCDC meeting in San Diego. When Gerry Meis Office planned to request approval for the five IAs, as was recommended by the CTCDC, then Ahmad again raised safety-related concerns with the current guidelines for the FYA. This was the reason that Caltrans did not requested approval for the FYA and decided to place on the CTCDC agenda for further discussion.

The following are Ahmad concerns and a possible solution with showing signal phase diagram.

As it was expressed to the CTCDC on October 26, 2006 meeting, the concern is when the FYA phase terminates simultaneously with the opposing main line through phase. The signal phase indication for the FYA left turn will turn to a steady yellow arrow and the signal phase indication for the opposing through will turn to a steady circular yellow. This would cause a yellow conflict. This yellow conflict does not occur during the normal traffic signal operation or under any other circumstances, except the FYA operation.

It is also recommended that advance railroad preemption be required when railroad preemption exists at an intersection with FYA operation.

Here's the recommended language to be incorporated into the existing interim approval to avoid the conflict during FYA operation.

General

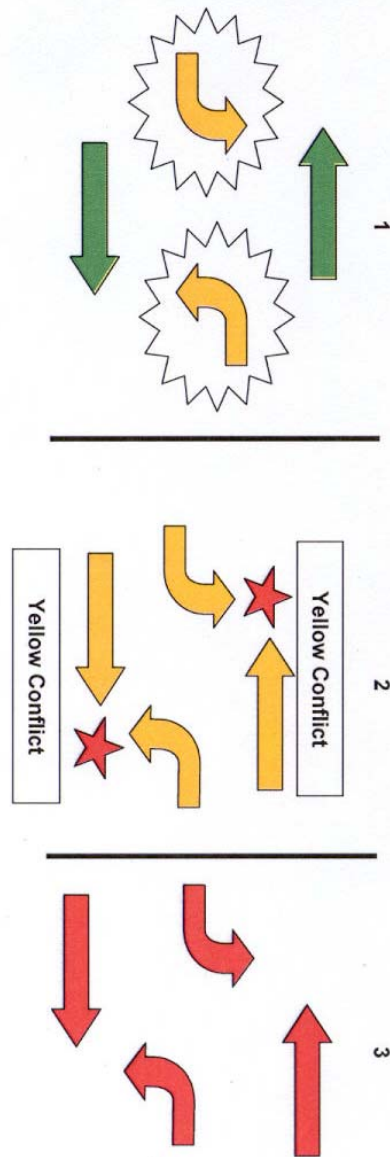
Advance railroad preemption shall be provided at intersections with FYA operation.

Section 4.

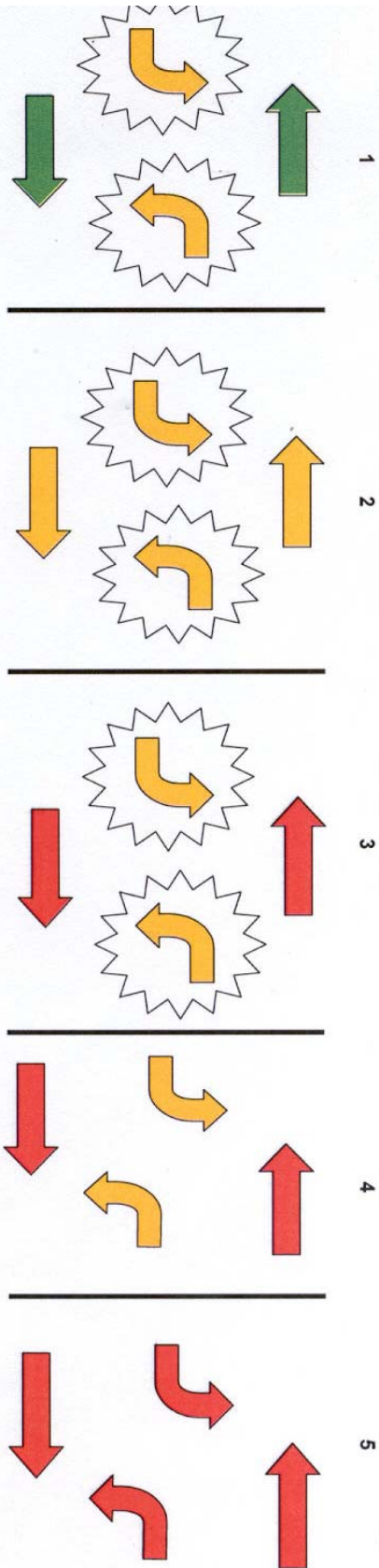
A steady left-turn yellow arrow signal indication shall be displayed following the flashing yellow arrow signal indication only when the opposing through phase has been terminated and is displaying a steady circular red signal indication.

Protected Permissive Operation

Yellow Conflict Condition



Proposed Solution to Avoid Yellow Conflict



FHWA Memorandum on the Interim Approval for Optional Use of Flashing Yellow Arrow for Permissive Left Turns (IA-10)**Memorandum**U.S. Department of Transportation **Federal Highway Administration**

Subject: **INFORMATION:** MUTCD – Interim Approval for Optional Use of Flashing Yellow Arrow for Permissive Left Turns (IA-10) Date: March 20, 2006

From: Original signed by:
Jeffrey F. Paniati, Associated Administrator for Operations

To: Division Administrators
Resource Center Director and Operations Managers
Federal Lands Highway Division Engineers

Purpose: The purpose of this memorandum is to issue an Interim Approval for the optional use of a flashing yellow arrow (FYA) signal indication as the signal display for left-turn movements during permissive turn intervals at signalized locations. Interim Approval allows interim use, pending official rulemaking, of a new traffic control device, a revision to the application or manner of use of an existing traffic control device, or a provision not specifically described in the MUTCD.

Background: For many years, some engineers have had concerns that drivers turning left on a permissive circular green signal indication might inadvertently mistake that indication as implying the left turn has the right of way over opposing traffic, especially under some geometric conditions. A variety of different indications and signal face arrangements for permissive left turns have been tried over the years by road authorities, but no comprehensive research had been conducted to evaluate all the potential displays.

Research on the Flashing Yellow Arrow: National Cooperative Highway Research Program (NCHRP) Project 3-54, Evaluation of Traffic Signal Displays for Protected/Permissive Left-Turn Control, was initiated in the mid-1990s for the purpose of conducting the necessary definitive research to evaluate the wide variety of potential displays for permissive left-turn movements. Over a 7-year period, a very comprehensive research process was conducted, including engineering analyses, static and video-based driver comprehension studies, field implementation, video conflict studies, and crash analyses. In 2003, the completed research was published as NCHRP Report 493. The full report may be accessed via the Interim Approvals page of the MUTCD website at <http://mutcd.fhwa.dot.gov>. Key findings of the research include:

- The FYA was found to be the best overall alternative to the circular green as the permissive signal display for a left-turn movement.
- FYA was found to have a high level of understanding and correct response by left-turn drivers, and a lower fail-critical rate than the circular green.
- The FYA display in a separate signal face for the left-turn movement offers more versatility in field application. It is capable of being operated in any of the various modes of left-turn operation by time of day, and is easily programmed to avoid the "yellow trap" associated with some permissive turns at the end of the circular green display.

The NCHRP Report 493 recommends that the FYA be allowed as an alternative to the circular green for permissive left-turn intervals. It also recommends certain specific signal face arrangements and locations, based on driver understanding and performance.

Subsequent to the publication of the NCHRP research, FHWA has approved additional experimentation with the FYA by numerous jurisdictions. Although these experimentations are still in progress, initial results have been positive and supportive of the NCHRP research findings.

FHWA Evaluation of Results: The Office of Transportation Operations has reviewed the research and subsequent additional experimentation and considers the FYA to be successful. Motorists responded strongly and favorably to the concept with little or no public information; these highway users intuitively knew what the flashing yellow arrow meant. The FHWA believes that the FYA has a low risk of safety or operational concerns. Further, the optional use of the FYA provides safety and operational benefits that merit earlier implementation by agencies that wish to use it, pending official MUTCD rulemaking. FYA provides the ability to easily implement lead-lag left-turn phasing and/or variable phasing by time of day, without revising signal hardware and without creating the "left-turn yellow trap" that can occur with the traditional circular green display. Discussions at recent meetings of the National Committee on Uniform Traffic Control Devices (NCUTCD) indicate a consensus in the practitioner community in support of optional use of the FYA. There is a low risk of negative reactions by industry or specific manufacturers or suppliers, and FHWA does not perceive any adverse financial impacts. All existing signal manufacturers make standard signal faces capable of displaying the FYA for left-turn sequences. This Interim Approval does not create a new mandate compelling installation of the FYA for left turns, but for those agencies that do wish to use FYA, it is a low-cost measure to implement.

Conditions of Interim Approval: Interim Approval for the optional use of the FYA for a permissive left-turn indication will be granted to any jurisdiction that submits a written request to the Office of Transportation Operations. A State may request Interim Approval for all jurisdictions in that State. Jurisdictions using FYA under this Interim Approval must agree to maintain an inventory list of all locations where the devices are placed and to comply with Item F at the bottom of Page 1A-6 of the 2003 MUTCD, Section 1A.10 which requires: "An agreement to restore the site(s) of the Interim Approval to a condition that complies with the provisions in this Manual within 3 months following the issuance of a Final Rule on this traffic control device. This agreement must also provide that the agency sponsoring the Interim Approval will terminate use of the device or application installed under the Interim Approval at any time that it determines significant safety concerns are directly or indirectly attributable to the device or application. The FHWA's Office of Transportation Operations has the right to terminate the interim approval at any time if there is an indication of safety concerns."

If an agency opts to use FYA under this Interim Approval, the following design and operational requirements shall apply, and shall take precedence over any conflicting provisions of existing Section 4D.06 of the 2003 MUTCD for the approach on which FYA is displayed:

1. **Mode(s) of Left-Turn Operation:**
 - a. The flashing YELLOW ARROW signal indication may be displayed to indicate a permissive left-turn movement in either a protected/permissive mode or a permissive only mode of operation.
 - b. It is not necessary that the left-turn mode for an approach always be the same throughout the day. Varying the left-turn mode on an approach among the permissive only and/or the protected/permissive and/or the protected only left-turn modes during different periods of the day is acceptable.
2. **Signal Face Arrangement:**
 - a. At least one separate four-section signal face, in addition to the minimum of two signal faces for other traffic on the approach, shall be provided for the left-turn movement. The

separate left-turn signal face shall be capable of displaying, from top to bottom (or left to right in a horizontally-aligned face), the following set of signal indications: Steady left-turn RED ARROW, steady left-turn YELLOW ARROW, flashing left-turn YELLOW ARROW, and steady left-turn GREEN ARROW. If the left-turn movement is always operated in the permissive only mode, a separate three-section face shall be used instead, with the GREEN ARROW signal section omitted.

- b. A CIRCULAR RED may be substituted for the RED ARROW in States where RED ARROWS are not in current use. If CIRCULAR RED is used instead of RED ARROW in the left-turn signal face, and the left-turn signal face sometimes displays a steady CIRCULAR RED signal indication at a time when the signal faces for the adjacent through movement are not displaying steady CIRCULAR RED signal indications, the CIRCULAR RED signal indication in the left-turn signal face shall be shielded, hooded, louvered, positioned, or designed such that it is not readily visible to drivers in the through lane(s) or a LEFT TURN SIGNAL sign (R10-10) shall be installed adjacent to the left-turn signal face.
 - c. A dual-arrow signal section (capable of alternating between the display of a steady GREEN ARROW and a flashing YELLOW ARROW signal indication during steady mode operation) may be used to reduce the total number of signal sections to three if physical conditions make it impractical to use a four-section signal face.
 3. Signal Face Location: If an exclusive left-turn lane is present on the approach and if a left-turn signal face is mounted over the roadway, that left-turn signal face should be centered over the left-turn lane or the extension thereof. If centering of the overhead left-turn signal face is not practical, it shall not be positioned any further to the right than the lane line (or the extension of the lane line) between the left-turn lane and the adjacent through lane, nor shall it be positioned any further to the left than the left edge of the left-turn lane (or extension thereof).
 4. Signal Displays:
 - a. During a protected left-turn movement, the left-turn signal face shall display only a steady left-turn GREEN ARROW signal indication.
 - b. During a permissive left-turn movement, the left-turn signal face shall display only a flashing left-turn YELLOW ARROW signal indication.
 - c. During a prohibited left-turn movement, the left-turn signal face shall display only a steady left-turn RED ARROW or a steady CIRCULAR RED.
 - d. A steady left-turn YELLOW ARROW signal indication shall be displayed following every steady left-turn GREEN ARROW signal indication.
 - e. A steady left-turn YELLOW ARROW signal indication shall be displayed following the flashing left-turn YELLOW ARROW signal indication if the permissive left-turn movement is being terminated and the left-turn signal face will subsequently display a steady red signal indication. The signal section that displays the steady left-turn YELLOW ARROW signal indication during change intervals shall not be used to display the flashing left-turn YELLOW ARROW signal indication for permissive left turns.
 - f. When a permissive left-turn movement is changing to a protected left-turn movement, a steady left-turn GREEN ARROW signal indication shall be displayed immediately upon termination of the flashing left-turn YELLOW ARROW signal indication. A steady left-turn YELLOW ARROW signal indication shall not be displayed between the display of the flashing left-turn YELLOW ARROW signal indication and the display of the steady left-turn GREEN ARROW signal indication.

- g. During flashing mode operation (see Section 4D.12), the display of a flashing left-turn YELLOW ARROW signal indication shall be only from the signal section that displays a steady left-turn YELLOW ARROW signal indication during steady mode (stop-and-go) operation.

Any questions concerning this Interim Approval should be directed to Mr. Scott Wainwright at scott.wainwright@fhwa.dot.gov or by telephone at 202-366-0857.

06-13 Proposal to Amend Section 7B.08 and 7B.12 (School Zone Signs)**Background:**

The City of Santa Ana requests that the CTCDC consider to remove Assembly D from Figure 7B-2(CA) where it is shown in advance of the A and only show it in advance of the Assembly B with a footnote or asterix indicating that exact sign locations may need to be adjusted for field conditions and Section 2C.05. Additionally, it is requested that the CTCDC indicate that on shorter blocks where it is not possible to install both the Assembly A, and a D where there is a B based on field constraints, that the Assembly A may be accepted in lieu of the Assembly D for such cases.

The CTCDC further consider an alternative wording or replace the Assembly D in Figure 7B-3(CA) with the S4-5 or S4-5a as a “shall” condition in lieu of the Assembly D since it is more specific for that application. Then, add in the Assembly D into the figure in advance of the Assembly B with an asterix indicating that exact sign locations may need to be adjusted for field conditions and Section 2C.05. Additionally, it is requested that the CTCDC indicate that on shorter blocks where it is not possible to install both the Assembly C, and D where there is a B based on field constraints, that the Assembly C may be accepted in lieu of the Assembly D for such cases.

The justification was presented to the CTCDC during the October 2006 meeting.

Chairman Mansourian asked for the Committee member’s opinions on Monica’s suggestion.

Hamid Bahadori stated that by eliminating Assembly D, the school zone would be reduced and in certain conditions an agency wants to inform the motoring public about the presence of a school in advance. The motorist needs to be informed as early as possible.

John Fisher stated that Assembly D is required by the MUTCD.

Monica Suter stated that she liked the idea to inform the motorist earliest, however, in a 25-mph speed zone, Assembly D is not essential since the default speed of a residential zone is already 25 mph per the CVC.

John Fisher stated that if there is a marked crosswalk with a Stop sign, then Assembly D is not required. However, if there is no control at the crosswalk, then Assembly D is required.

Monica Suter stated that in a 25-mph zone Assembly Ds (which look very similar to Assembly As) create excessive (and seemingly redundant) information, and motorists should already be aware that they are in a 25-mph residential and 25 mph school zone with the Assembly A signs and due to the character of residential streets.

Hamid Bahadori stated that most of the residential areas are not posted for a 25-mph speed zone, in which case you need to inform the motorist that they are in a school zone.

John Fisher asked that Assembly D be required before Assembly B.

Monica Suter responded that she would submit revised language.

Jacob Babico asked in which conditions the sign S4-5 or S4-5a would be used instead of Assembly D.

Monica Suter responded that it would be based on engineering judgement.

Joe Whiteford stated that in his opinion from an enforcement perspective, the S4-5 or S4-5a sign is more effective to Assembly D to warn motorists that they are entering in a school zone with reduced speed.

Chairman Mansourian stated that Monica Suter has a proposal and the Committee needs to determine whether they recommend placing it on the agenda for the next CTCDC meeting as an action item.

Chairman Mansourian asked John Fisher what his thoughts were on the proposal.

John Fisher stated that that Monica has raised three issues as follows:

To review sizes for the supplemental school plaques and make them consistent between all graphics/figures and tables. She also suggested that the width of the "School" plaque to be same size in width as the pentagon (S1-1) signs.

All the Committee members agreed to place this item on the agenda.

John Fisher further added that the other two proposals are to amend Section 7B.08 and 7B.12 as mentioned above.

Some members stated that the Assembly D is required according to the Federal Manual and CA MUTCD and therefore there is no need of further discussion. Some members asked to place it on the agenda and asked Monica Suter to provide an exact proposal for the next meeting.

The following proposed language was submitted by the City of Santa Ana to amend Section 7B.08 and Section 7B.12 of the CA MUTCD.

CA MUTCD Section 7B.08

Standard—1st paragraph be modified (as underlined) to say:

The School Advance Warning Assembly D(CA) shall be used in advance of any School Crosswalk Warning Assembly B(CA), or School Crosswalk Warning Assembly E(CA). The S4-5 or S4-5a shall be installed in advance of Assembly Cs to indicate that the posted speed limit is being reduced.

CA MUTCD Section 7B.12

Standard - first two paragraphs be modified to say:

The Reduced Speed School Zone Ahead (S4-5, S4-5a) sign (see Figure 7B-1(CA)) shall be used to inform road users of a reduced speed zone in advance of the School Speed Limit Assembly C(CA).

07-1 Proposal to Revise the Sizes for the Supplement School Plaques (S4-3, W16-7p, and W16-9p) Signs**Background:**

The City of Santa Ana requests that the CTCDC revisit and modify the sign sizes for all supplemental school plaques.

The illustration in Figure 7B-1(CA) School Area Signs shows that S4-3, W16-7p and W16-9p plaques are as wide as the S1-1, however, the dimensions listed in Table 7B-1 are not consistent with the Figures. Additionally, the “school” plaque is shown as relatively smaller in width compared to the S1-1 sign. Additionally, an even smaller “School” plaque of 12 x 6” is allowed in the table. By comparison, the S1-1 with “Ahead” plaque is much more legible since it has fewer characters and its conventional size is 24 x 12” instead of 24 x 8” for the “School” plaque. The City illustrated sample photos where the “School” plaque was not visible in the smaller size from 200 feet away. Additionally, prior CA practice, precedence and the California Vehicle Code indicate how important Assembly A and C signs are. However, under the current manual, the Assembly D stands out more and essentially “upstages” the importance of the Assembly A sign given the default plaque sizes where the size of “Ahead” plaque is larger and stands out much more than the “School” plaque which has more characters. Monica suggested that the relative size of the “School” plaque should probably be the same width as the S1-1 while the “Ahead” plaque should probably be smaller in width than the S1-1 signs as a “shall” condition. In general, she suggested that all sign sizes should be reviewed and modified based on the relative importance of each sign and for consistency in Table 7B-1(CA). Following this review, she recommended that all tables, figures, and other graphics should also be revised to consistently depict the relative sizes of the plaques below the signs.

The Committee members agreed to place this item on the agenda under the “Public Hearing.”

07-2 Three (3) Proposed Roadway Regulatory Signs

The Town of Apple Valley requests CTCDC to recommend approval of the three regulatory signs. The Proposed signs are as follows:

- NO PARKING OF COMMERCIAL VEHICLES- EXCEPT BY PERMIT
- COMMERCIAL VEHICLES OVER 5 TONS PROHIBITED EXCEPT ON THROUGH AND LOCAL TRUCK ROUTES
- DISPLAY OF VEHICLES FOR SALE PROHIBITED

The following pages (21thru 24) contains the justification and policy for the proposed signs:



Town of Apple Valley

14955 Dale Evans Parkway • Apple Valley, California 92307

A Better Way of Life

City of Los Angeles
Department of Transportation
100 S. Main Street, 10th Floor
Los Angeles, Calif. 90012

SUBJECT: California Traffic Control Devices Committee (CTCDC) Meeting

Dear Mr. Fisher:

The Town of Apple Valley desires to present for approval to the California Traffic Control Devices Committee (CDCTC) three (3) proposed roadway regulatory signs.

PROBLEM STATEMENT AND PROPOSAL

The Town of Apple Valley presently displays the proposed signs at all local roadway entries into the corporate boundaries of the Town (within the Town's ROW). The purpose of the signs is to inform the motoring public of three (3) specific regulations enforced within the Town regarding public displaying or advertising of vehicles for sale, the adherence to truck routes, and the parking of commercial vehicles. Besides entrance into the Town upon various local collector roads, the Town is also entered at two (2) locations upon California State Highway 18 (SR18), which is prevailed upon by Caltrans. In order to obtain an Encroachment Permit for sign installation, Caltrans requires that any signage displayed within its jurisdiction be MUTCD-approved. To avoid an over-abundance of signage, the Town would prefer to display one of each sign at the two (2) SR18 entrances (within Caltrans ROW) to the Town, rather than at every local-roadway-access to SR18 within the Town (within Town ROW).

Proposed Sign #1

NO PARKING OF COMMERCIAL VEHICLES- EXCEPT BY PERMIT



POLICY R26K(CA) NO PARKING OF COMMERCIAL VEHICLES

Section 2B.39 Parking, Standing, and Stopping Signs (R7 and R8 Series)

Standard: The NO PARKING OF COMMERCIAL VEHICLES (R26K(CA)) sign may be used when the parking of commercial vehicles is prohibited. Refer to CVC 22507.5.

POLICY R25A(CA) EXCEPT BY PERMIT

Section 2B.39 Parking, Standing, and Stopping Signs (R7 and R8 Series)

Standard: The EXCEPT BY PERMIT (R25A(CA)) supplemental sign may be used to indicate a parking exception by display of a valid applicable permit.

Proposed Sign #2

COMMERCIAL VEHICLES OVER 5 TONS PROHIBITED EXCEPT ON THROUGH
AND LOCAL TRUCK ROUTES



POLICY R36A(CA) COMMERCIAL VEHICLES OVER 5 TONS PROHIBITED EXCEPT ON
THROUGH AND LOCAL TRUCK ROUTES

Section 2B.49 Weight Limit Signs (R12-1 through R12-5)

Standard: The Commercial Vehicle Weight Exclusion (R36A(CA)) sign may be used to prohibit vehicles over ____ tons from a general, defined area unless indicated as a truck route. Refer to CVC 35701.

Proposed Sign #3

DISPLAY OF VEHICLES FOR SALE PROHIBITED



POLICY R23A(CA) DISPLAY OF VEHICLES FOR SALE PROHIBITED

Section 2B.114(CA) Display of Vehicles Sign

Guidance:

When used, the DISPLAY OF VEHICLES FOR SALE PROHIBITED (R23A(CA)) sign may be placed when legal or illegal parking of vehicles for sale is prevalent, in violation of local or state regulation prohibiting such advertising. Refer to Streets And Highways Code Section 731.

The Town is hoping to obtain your sponsorship for our proposal, and placement upon the agenda for the next available CTCDC meeting. Any comments or guidance you may provide would be greatly appreciated. If you have any questions, please contact me at (760) 240-7000 ext.7610

Sincerely,

Dennis Cron
Director of Public Services
Town of Apple Valley

07-3 FHWA's Interim Approvals to Display More than Six Specific Service Logo Panels for a Type of Service**Interim Approval to Display More than Six Specific Service Logo Panels for a Type of Service (IA-9)**

Memorandum

via Electronic Mail

Subject: **ACTION:** Interim Approval to Display More than Six Specific Service Logo Panels for a Type of Service

Date: September 21, 2006

From:  Jeffrey K. Paniati
Associate Administrator for Operations

Reply to
Attn. of: HOTO-1

To: Associate Administrators
Chief Counsel
Directors of Field Services
Resource Center Director and Operations Managers
Division Administrators
Federal Lands Highway Division Engineers

Purpose: The purpose of this memorandum is to issue an Interim Approval to allow State and local highway agencies the option of displaying up to 12 logo panels for any one specific service type (i.e., Gas, Food, Lodging, Camping, Attraction, and 24-Hour Pharmacy) by using no more than two specific service signs.

Background: The Specific Service Sign Program (also known as the Logo program) was established in 1969. This State-sponsored program provides the traveling public with information about specific motorist services available at approaching interchanges. Eligible service facilities can use their business identification logo for services and attractions. The MUTCD provides minimum parameters on the number, spacing and specific service types allowed on the signs, and the States develop policies and criteria for selecting the eligible businesses that appear on the signs.

The current MUTCD language limits the number of specific service signs along an interchange or intersection approach to four signs. Each of these four signs must be allocated to one of the following services types: Gas, Food, Lodging, Camping, Attraction, or 24-Hour Pharmacy. Each sign can display a maximum of 6 logo panels for any service type. No service type is allowed to appear on more than one sign.

The MUTCD establishes these guidelines to ensure that State implementation of the program does not introduce safety concerns. The current language in the MUTCD provides States flexibility with respect to the selection criteria for the specific service sign program. The FHWA believes that States are in the best position to determine local needs with respect to criteria for availability of the various types of services.

However, the FHWA recognizes that the demand for logo positions in the Specific Service Sign program has increased dramatically and that there is often significant competition for logo panels at an interchange.

Research on More Than Six Logo Panels: In May 2004, the FHWA approved a request from the Virginia Department of Transportation (VDOT) to experiment with the food specific service signs in situations where there were more than six eligible food businesses at an interchange or intersection. In these situations, VDOT was allowed to use the empty space on the camping sign to display additional food logo panels. In cases where there were no camping services and therefore no camping sign, VDOT was allowed to install a second food specific service sign in the normal location of a camping sign. The VDOT submitted their final report in October 2005. Results from the surveys and crash analysis studies conducted by VDOT showed that displaying additional food logo panels on a second specific service sign when the first specific service sign is full did not create any additional safety risks and that there was a benefit to having additional information on food availability for the motorists. The complete evaluation study and report findings are posted on the Interim Approval page of the MUTCD website at <http://mutcd.fhwa.dot.gov>.

FHWA Position: Based on Virginia's experimentation results, the FHWA is issuing this Interim Approval to give States and local highway authorities more flexibility on the selection of businesses based on local needs. The FHWA believes that the flexibility to add food logo panels can be extended to other service types, as long as the maximum of four signs on the approach is not exceeded.

Conditions of Interim Approval: Interim Approval for the option of displaying up to 12 logo panels for any one specific service type will be granted to any jurisdiction that submits a written request to the Office of Transportation Operations. A State may request Interim Approval for all jurisdictions in that State. Jurisdictions using traffic control devices under an Interim Approval must agree to maintain an inventory list of all locations where the devices are placed and to comply with item F at the bottom of page 1A-6 of the 2003 MUTCD, Section 1A.10 which requires:

"An agreement to restore the site(s) of the Interim Approval to a condition that complies with the provisions in this Manual within 3 months following the issuance of a Final Rule on this traffic control device. This agreement must also provide that the agency sponsoring the Interim Approval will terminate use of the device or application installed under the Interim Approval at any time that it determines significant safety concerns are directly or indirectly attributable to the device or application. The FHWA Office of Transportation Operations has the right to terminate the Interim Approval at any time if there is an indication of safety concerns."

If an agency opts to use this Interim Approval, the following design and operational requirements shall apply, and shall take precedence over any conflicting provisions of existing Section 2F.02 of the 2003 MUTCD for the interchanges and intersection approaches where the option granted under this Interim Approval is exercised:

- A maximum of 12 logo panels may be displayed on no more than two signs at any interchange or intersection approach for any one of the following specific service types: Gas, Food, Lodging, Camping, Attraction, and 24-hour Pharmacy.
- The additional logo panels may be displayed by either: (1) Sharing the empty space with another specific service type or (2) Using a separate specific service sign in situations where there are fewer than four specific service signs at an interchange or intersection approach.
- Each specific service sign shall be limited to no more than six logo panels.
- No specific service type shall appear on more than two specific service signs.
- No more than three types of services shall be represented on any one sign or sign assembly (See MUTCD Section 2F.02).

- If three types of services are shown on one sign, then the logo panels shall be limited to two for each service and if two types of services are displayed on one sign, there shall be no more than four logo panels for any one of the two service types (See MUTCD Sections 2F.02 and 2F.04).
- The legend and logo panels applicable to a service type shall be displayed such that the road user will not associate them with another service type on the same sign (See MUTCD Figure 2F-1). When more than one service type is displayed, the logo panels for each service must be separated.
- The number of Specific Service signs along an approach to an interchange or intersection, regardless of the number of service types displayed, shall be limited to a maximum of four (See MUTCD Section 2F.02).
- Specific Service ramp signs shall only be installed along the ramp or at the ramp terminal for facilities that have logo panels displayed along the main roadway. Ramp logo panels may be omitted if the facilities are readily visible from the ramp terminal (see MUTCD Section 2F.07). The spacing between ramp signs should be determined based on an engineering study that considers factors such as the length of the ramp and the safe mobility needs of the road user. In some cases, it might not be feasible to install all four Specific Service signs on the mainline because of the ramp constraints. An order of priority is especially critical where space is limited for sign installation and there is a demand for different types of ramp signs. Regulatory and warning information should be displayed rather than guide signing in cases where conflicts occur (see MUTCD Section 2A.16).
- The successive order for Specific Service signs (i.e., 24-hour Pharmacy, Attraction, Camping, Lodging, Food, and Gas) as discussed in MUTCD Section 2F.02 will not be required for purposes of this interim approval. For example if the Specific Service signs in the direction approaching the exit ramp are currently one for lodging, one for food and one for gas, then you can add a 4th Specific Service sign for food in the location preceding the lodging sign. You would not have to move the lodging sign.

Any questions concerning this Interim Approval should be directed to Ms. Linda Brown at Linda.L.Brown@dot.gov or by telephone at 202-366-2192.

07-4 Proposal to Adopt Transporting Fireworks Prohibited Sign

Jacob Babico stated that the County of San Bernardino would like to place signs at the State Route 127, "Possession or Transportation of Fireworks Prohibited" under SBCC 23.015/23.016. Jacob further stated that the sign request is on behalf of San Bernardino County Sheriff's Department, the California Department of Forestry and Fire Protection/Office of State Fire Marshal, San Bernardino County Fire Department, The Inyo County Sheriff's Department and Southern Inyo Fire Protection District. Jacob Babico stated that over 33 tons of illegal fireworks were confiscated in San Bernardino County over the past few weeks prior to July 4, 2006, by a special statewide law enforcement task force.

Jacob Babico stated that there are approved sign such as "Explosive or Flammable Materials Prohibited" and that sign can be modified to use as "Possession or Transportation of Fireworks Prohibited."

Chairman Mansourian suggested that if the sign is only for a particular state highway, then the best approach may be to ask for legislation. If the County does not want to go that way, then place this request on the CTCDC agenda for the next meeting.

Gerry Meis asked Jacob whether there is a County ordinance on this issue.

Matt Schmitz suggested that this is not a traffic control device and the Committee may want to leave it up to the local agencies, because by including all the non traffic control devices in the CA MUTCD, the document is getting bigger and bigger. This is a suggestion only, and the rest is up to the Committee.

Jacob Babico and Hamid Bahadori stated that there are too many signs out there which are not a traffic control device, however, they are in Federal MUTCD as well as in the CA MUTCD.

John Fisher suggested that that the sign language to be read as "Transporting Fireworks Prohibited" with County Code underneath it.

Chairman Mansourian suggested placing this item on the agenda for the next CTCDC meeting.

**07-5 Proposal to Amend Section 2C.29 Advance Traffic Control Signs
(W3-1, W3-2, W3-3, W3-4)**

The existing “shall not” is proposed to be changed to “should not”. The existing text prohibits the use of a warning beacon or WHEN FLASHING plaque to supplement the BE PREPARED TO STOP sign. It is not clear why this manner of application is such a strong prohibition as the reasoning offered is the risk if a warning beacon is inoperative (which may have diminished with newer more updated equipment) or that generally they are not effective as warning devices. It is agreed that inoperative risk and effectiveness are an issue and generally their use should be discouraged, but they are not strong enough to justify a prohibition. Prohibition normally is reserved for situations where there are conflicts with law or the application is unsafe and conflicts with existing safety research.

In some cases, depending upon the sight distance, grade, curve radii and other site specific conditions, or a traffic signal immediately downstream of a crest vertical curve, in the judgment of the engineer their use could improve the safety of the roadway. The existing prohibition unnecessarily takes away this tool from the engineer to use in such narrow applications. Changing the text to “should not” still discourages its use but does allow the engineer to use his discretion and use these devices where they may be effective.

Section 2C.29 Advance Traffic Control Signs (W3-1, W3-2, W3-3, W3-4)**Standard:**

A warning beacon or WHEN FLASHING (W16-13p) plaque ~~shall~~ **should** not be used to supplement the BE PREPARED TO STOP (W3-4) sign. Studies indicate that these devices are generally not effective as warning devices for motorists approaching signalized intersections. The non-use of a warning beacon or WHEN FLASHING (W16-13p) plaque also addresses the situation when a warning beacon is inoperative for any reason.

07-6 Delete the symbolic NO TURN ON RED (R10-11) sign in the entire California MUTCD.

Currently, the R10-11a and R10-11b signs are deleted in favor of the R13A(CA), R13B(CA) and SR39A(CA) in the California MUTCD.

It is proposed that the R10-11 sign also be deleted, as it falls under the same logic of preferring symbol over a word message.

Following sketches are from Figure 2B-19 and 2B-19(CA).



R10-11



R10-11a



R10-11b



R13A (CA)



R13B (CA)



SR39A (CA)

06-4 OCTSTF Pending item from June 14, 2006 Meeting**37 - (IV.C.(2))****Section 6F.58 Channelizing Devices**

Guidance:

The spacing of channelizing devices should not exceed a distance in meters (feet) equal to 0.2 times the speed limit in km/h (1.0 times the speed limit in mph) when used for taper channelization, and a distance in meters (feet) equal to 0.4 times the speed limit in km/h (2.0 times the speed limit in mph) when used for tangent channelization.

The spacing of channelizing devices should not exceed a distance in meters (feet) equal to 0.2 times the speed limit in km/h (1.0 times the speed limit in mph).

Where engineering judgment indicates a special need for speed reduction due to horizontal curvature or through the taper for a lane closure, the spacing of channelizing devices should not exceed a distance in meters (feet) equal to 0.1 times the speed limit in km/h (0.5 times the speed limit in mph).

Table 6F-102(CA). Maximum Spacing of Channelizing Devices

Speed (mph)	Maximum Channelizer Spacing		
	Taper* (ft)	Tangent (ft)	Conflict** (ft)
20	20 10	40 20	40 5
25	25 12	50 25	42 6
30	30 15	60 30	45 7
35	35 17	70 35	47 8
40	40 20	80 40	20 10
45	45 22	90 45	22 11
50	50 25	100 50	25 12
55	55 27	110 55	27 13
60	60 30	120 60	30 15
65	65 32	130 65	32 16
70	70 35	140 70	35 17

Request for Experimentation**06-5 Clear the Way Signage (Drive Damaged Vehicle to Shoulder)**

California Traffic Control Device Committee
“Clear the Way” Highway Advisory Signage
Request for Experimentation

Submitted by the Metropolitan Transportation Commission

Problem Statement

On September 16, 1999, Senate Bill 681 amended Sections 20002 and 23113 of the California Vehicle Code. This amendment allowed motorists involved in a traffic collision resulting in minor property damage, to move their vehicles off the main lanes of the highway, to a safe location in the immediate vicinity of the accident. Prior to SB 681, motorists involved in traffic accidents were required by law to “immediately stop” at the scene of the incident, to exchange license and vehicle registration information. Failure to comply was punishable as a misdemeanor.



Five years following the enactment of the revised law, there continues to be minimal, if any, public knowledge of the new provision. The deployment of “clear the way” advisory traffic signs is proposed as a method to enhance motorists awareness of this law. The purpose of this proposal is to request authorization for the experimental use of “Clear the Way” advisory traffic signs along the I-880 corridor.



This text only version can be deployed with CTCDC approval.

Background

An estimated 30 percent of all delay experienced along the I-880 corridor is caused by traffic incidents and collisions. This delay is compounded by motorist failure to move their vehicles out of the lane of traffic when involved in minor traffic accidents or “fender benders”. FSP traffic collision statistics, collected for a 12-month period (September 2005 to August 2006), indicated that 35 percent of all accidents were detected in the main lane of the highway.

The Metropolitan Transportation Commission, in partnership with the California Highway Patrol, Golden Gate Division (CHP, GGD), and the California Department of Transportation District 4 (Caltrans), are preparing to conduct a demonstration project along the I-880 corridor. The purpose of this demonstration project is to measure the effectiveness of enhancements to existing system management tools and the deployment of new strategies in a defined study area. The deployment of advisory “Clear the Way” signs is one of the proposed near-term, low cost strategies with potentially high benefits.

Goals and Objectives

The goals and objectives of the sign demonstration is as follows:

- Educate motorists on “Clear the Way” law which allows motorists to move vehicles off the main lanes of the highway without affecting the question of fault;
- Reduce the number of secondary collisions caused by reduced speeds resulting from traffic impediments and rubberneckers;
- Reduce delay and loss of productivity caused by minor incidents; and
- Improve operational efficiency and mobility within a major trade corridor.

Signs in Other States

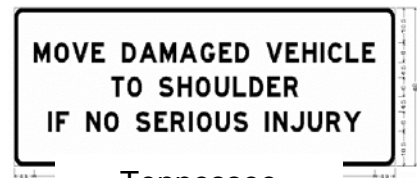
“Clear the Way” signs are currently in use in the states of Florida, Tennessee, and Washington (see below). While these states have not conducted a formal evaluation of the impacts of the signs, traffic engineers from these respective states, have observed changes in motorist behavior as a result of these devices. Since the implementation of the signs, there have been noted declines in the number of minor traffic accidents blocking the highway lanes. It was further reported that strong media dissemination of information contributed to enhanced motorist awareness and success of these signs.



Washington State



Florida



Tennessee

Project Scope

The “Clear the Way” signs will be deployed along the I-880 corridor as part of the I-880 Demonstration Corridor Project. The length of the study area extends 20 miles from 7th Street/West Grand in the City of Oakland to Industrial Parkway in the City of Hayward. Caltrans District 4, in conjunction with the CHP GGD and MTC, has identified 15 potential locations for sign installation. Due to minimal shoulder capacity within the northern limits of the corridor, the installation of the signs will be concentrated in the southern portion of the corridor as indicated in the attached signage plan.

A motorist survey will be developed to evaluate the impacts of the signs. Survey forms will be distributed to motorists involved in a traffic collision at the time they are assisted by an FSP operator. To maximize survey responses, motorists will be provided with two options for completing the survey. Motorists will be directed to either return the survey by mail using pre-paid postage or to visit a website to complete the survey on-line.

To supplement the signs, “Clear the Way” brochures will be developed and distributed to all motorists assisted by FSP along the corridor. In addition, the local CHP area offices will assist with coordination of media support and public service announcements for further dissemination of information to the public.

Schedule

The demonstration project will be conducted over an 18-month period—January 1, 2007 thru June 30, 2008. During the first 6 months, the survey will be conducted to gather baseline traffic collision and motorist behavior data. This information will continue to be collected for the duration of the 12-month demonstration period.

The results of this demonstration project and impacts on motorist behavior will be analyzed to assess the potential for statewide deployment of a CHP “Clear the Way” campaign.

Budget

Sign fabrication and installation costs are estimated at \$1,500-\$2,800 per sign. MTC proposes to fund the total cost of the signs (\$22,500-\$42,000) and Caltrans D4 Maintenance will be responsible for procuring and installing the signs along the corridor.



I-880 Corridor Demonstration Project "Clear the Way" Sign Locations



07-7 Experimentation by Implementation of Two New School Site Loading Signs

The City of San Francisco requests authorization to conduct experiment with the following School Bus and School Passenger Loading signs:

CTCDC Item**New MUTCD School Bus and School Passenger Loading Signs**

Proposed by San Francisco Municipal Transportation Agency,

Department of Parking and Traffic

Sponsored by CSAA, San Francisco

Request to the California Traffic Control Devices Committee (CTCDC) for Experimentation by Implementation of Two New School Site Loading Signs:

- 1) School Bus Loading Sign (School Bus Loading Zone)**
- 2) School Passenger Loading Sign (Parent/Car Pick-up and Drop-off Zone)**

The purpose of these two new SCHOOL LOADING signs is to create uniform and clear messaging to increase driver awareness, direct traffic in school zones, reduce vehicle loading conflicts and congestion during school operation hours, and reduce related school children's pedestrian and traffic collisions during the peak school drop-off/arrival and pick-up/departure times at school sites.

These School Site Pedestrian/Traffic collisions are associated with:

- 1) Dropping a child off on the opposite side of the street,
- 2) Vehicles speeding and making U turns at schools,
- 3) Double parking and congestion blocking view of children,
- 4) The mix of cars and school buses in the same loading zone,
- 5) Speeding in and around active school zones.

School site pedestrian and traffic safety mitigations implemented

In partnership with the San Francisco Parent Teacher Association and California State Automobile Association, the Department of Parking and Traffic (DPT), a division of the San Francisco Municipal Transportation Agency (MTA), over the last few years has completed the installation of new yellow "ladder style" crosswalks adjacent to all K-12 school sites, new fluorescent advance school pedestrian and crosswalk signs, and pedestrian countdown signals to increase motorist awareness and compliance in operating motor vehicles in and around school zones. Additionally, DPT School Crossing Guards have been funded at selected school sites where needed, as well as motorist awareness and Pedestrian Injury Prevention educational workshops.

School zone issues and the proposed signs

Compliance regarding the safe loading and unloading of children at schools sites continues to be a problem due to congestion and motor vehicle conflicts with school buses and children arriving at and departing the school sites. Specific MUTCD uniformly designed (pictographic) school loading signs, as suggested in this proposed experimentation project (see Attachments), would communicate clearly to increasing numbers of multi-lingual/immigrant parents and assist in differentiating between separate school site bus loading zones and parent drop-off and pick-up areas. Parking Enforcement at San Francisco's urban school sites and K-12 schools statewide would be aided by uniformly designed school loading zone signs.

The sign format elements that are significant in creating uniformity and compliance are

1) The top portion (plaque) utilizing DOT approved Fluorescent Yellow Green reflective background for the word SCHOOL in combination with traffic directions/prohibited actions, such as TOW-AWAY (pictograph), No Parking (Passenger Loading) and No Stopping (School Bus Loading) for school zone postings at curb (marked white paint/red lettering) in school loading zones.

2) The School Bus Loading Zone is greatly enhanced by using a school bus pictograph and the words SCHOOL BUS LOADING. The School Passenger Loading Zone for vehicles other than School Buses is enhanced with a car symbol and the (MUTCD pictograph) school children entering from the curbside with the wording PASSENGER LOADING. The additional third message of TOW-AWAY/NO STOPPING (in school bus loading zones) or TOW-AWAY/NO PARKING (in school passenger loading zones) is necessary in San Francisco's urbanized area along with the posted hours (bottom portion) to cite and tow non-compliant vehicles.

[Jurisdictions that prefer no tow-away regulations at school sites may use the alternative signs without the tow-away elements (attached)].

3) The posting of school hours is with black type on a white background at the bottom of the signs in the same uniform format.

Data Collection/Reporting

Surveys consisting of site photo audits and motorist behavior compliance observation at peak AM and PM loading times at selected school sites which are signed with the experimental signs for a period of 12 months, with semi-annual progress reports. A copy of the final results will be sent to the CTCDC within three months following the evaluation period of the experimentation.

Joern Kroll, PhD

Assistant Engineer, City and County of San Francisco

Municipal Transportation Agency, Department of Parking and Traffic

One South Van Ness Avenue, 7th Floor

San Francisco, California 94103-5417

Tel: (415) 701-4555, email: Joern.Kroll@sfmta.com

cc: Merry Banks, Manager, Special Projects, CSAA, San Francisco
Roger Bazeley, PTA and Mineta Transportation Institute-MSTM Graduate Program

Attachments (4):
proposed experimental school loading zone signs
1) School Bus Loading Zone Sign (with the tow-away elements)
2) School Passenger Loading Zone Sign (with the tow-away elements)
3) School Bus Loading Zone Sign (without the tow-away elements)
4) School Passenger Loading Zone Sign (without the tow-away elements)



15.5" X 36"
Rev. 11.2106



15.5" Wide
30" Tall
Rev. 10.17.06

15.5" X 36"
Rev.11.21.06



15.5"X 30" Rev. 11.21.06



07-8 Experiment with Speed Limit Numbers on Green Traffic Signal PhaseAutomobile Club of Southern California

January 4, 2007

Mr. Devinder Singh, Secretary CTCDC
Division of Traffic Operations - MS36
California Department of Transportation
1120 N Street
Sacramento, CA 95814

**Subject: Request for Experimentation from City of Garden Grove
CTCDC Meeting 2/15/07**

Dear Mr. Singh:

I have received a request for experimentation from City of Garden Grove for the installation of speed limit numbers on the face of the green indications at 13 signalized intersections throughout the City.

I have reviewed this request, and find that it has merit for placement on the CTCDC's agenda for consideration.

Please include this request on the CTCDC's agenda, under "Request for Experimentation", for the meeting of February 15, 2007.

Thank you.

Sincerely,

Hamid Bahadon

C: Farhad Mansourian, Chairman CTCDC

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Mayor

Mark Rosen
Mayor Pro Tem

Harry J. Krebs
Council Member

Mark Leyes
Council Member

Janet Nguyen
Council Member

714.741.5190

October 5, 2006

Federal Highway Administration (FHWA)
Office of Transportation Operations
400 Seventh Street SW, HOTO
Washington DC 20590

Subject: REQUEST FOR EXPERIMENT OF SPEED LIMIT NUMBER ON GREEN
TRAFFIC SIGNAL FACE

Dear Sir:

Attached is a request for experimentation for the installation of speed limit number to be installed on the face of the green indications.

These speed indicators are on a clear plastic lens, which will be adhered to the face of the existing green indication. As shown in the attached document the green indication is not adversely affected.

Your favorable consideration of this request will be greatly appreciated. If you require any additional information please contact me at 714.741.5190 or you may email me at georgea@ci.garden-grove.ca.us.

Sincerely,

A handwritten signature in black ink that reads 'George L. Allen'.

George L. Allen, P.E.
City Traffic Engineer
Garden Grove, CA

H:\RJACOT\GEO\experiment info\COVER LETTER.doc

11222 ACACIA PARKWAY, P.O. BOX 3070, GARDEN GROVE, CA 92842
TELEPHONE (714) 741-5000 • FAX (714) 741-5205 • www.ci.garden-grove.ca.us

Nature of the Problem

Motorists that are not familiar upon entering a street segment between major intersections and are unaware of the existing speed limit. Police always inquire if the motorists are aware of what the speed limit is when stopped for speeding.

Description of the Change to the Traffic Control Device

The device that is proposed is a clear plastic circle that incorporates the existing speed limit for that section of roadway. The numbers are centered on the green indication and do not reduce the effectiveness of the green.

This item was developed as a result of complaints from citizens who received traffic citations because speed limit signs are normally posted after major intersections on arterials and collector roadways. With this device, drivers are advised at each signalized intersection what the existing speed limit is for that section of roadway.

Supporting Data

With the installation of this device as previously stated, drivers will be advised of the existing speed limit for that section of roadway. Attached to this request are pictures showing the device along with data from the City of Oxnard, California that tested this device but removed it until authorized for experimentation. During that time, the City of Oxnard received positive feedback from the motoring public and good press on the device.

Illustrations

Enclosed are pictures of the proposed devices as well as a sample device. The pictures show an existing installation from the City of Oxnard, California that appeared in the Oxnard Star newspaper. As noted in the picture the speed limit numbers do not distract from the green indication and have no effect on the red or yellow indication.

Device not Protected by Patent

See attached letter.

Agreement

The City will enter into an agreement with FHWA's Office of Transportation Operations that the sites will be restored to their original condition after the experiment or at any time by direction of FHWA.

Semi-annual Report

The City agrees to provide a semi-annual report for the duration of the experimentation as well as providing copies of the final report to the FHWA's Office of Transportation Operation.

Time and Location of Experiment

It would be the City's desire to install these devices on 13 traffic signals in both directions of travel on Garden Grove Boulevard for a period of one year. The enclosed pictures show each of the proposed intersection by direction. The following locations have been selected:

- Garden Grove Boulevard at Palm Street
- Garden Grove Boulevard at Harbor Boulevard
- Garden Grove Boulevard at West Street
- Garden Grove Boulevard at Newhope Street
- Garden Grove Boulevard at 9th Street
- Garden Grove Boulevard at Euclid Street
- Garden Grove Boulevard at Brookhurst Way
- Garden Grove Boulevard at Kerry Street
- Garden Grove Boulevard at Galway Street
- Garden Grove Boulevard at Gilbert Street
- Garden Grove Boulevard at Casa Linda Avenue (eastbound)
- Garden Grove Boulevard at Casa Linda Avenue (westbound)
- Garden Grove Boulevard at Magnolia Street

Evaluation Plan

It is proposed to obtain the following data prior to installation of the device:

- Speed survey between each intersection for both directions
- 1-year accident history for each segment
- 1-year speeding citations written prior to installation

After one year, the same three data collections would be obtained and a detailed analysis of the results would be presented in a final report. Data would also be developed on citizen response both pro and con as well as any other comments.

It would be the City's intention to advise the citizens of Garden Grove through a "City Works" insert (quarterly City newsletter) in the water bill as well as publication in the three local newspapers and the City's "Connection," which is a semi-annual newsletter sent to all Garden Grove residents, businesses, and City Managers in the Orange County area.

Traffic lights at five Gonzales Road intersections to display speed limit

By John Schelle

jschelle@kernnews.com

Motorists along Oxnard's Gonzales Road might be forgiven if they miss the city's latest speed-limit signs.

To find them, they'll have to look up at some of the signal lights along Gonzales Road. There, in front of the green light, is a clear piece of plastic with a "45" painted on it.

The 45 is supposed to indicate the

speed limit along the coming stretch of Gonzales Road, as in 45 mph.

Police hope the indicators will provide yet another reminder to motorists to obey the speed limit.

"This will hopefully reduce their speed," Sgt. Randy Cole, a traffic supervisor with the Oxnard Police Department, said Wednesday.

The device's inventor, English-born Alan Fisher, said "Oxnard has the distinction of being the very

first city in the United States to use this."

Fisher, who runs a consulting group — Homeland Security Product Design — said he came up with the idea for the indicator while commuting between his home in Huntington Beach and his office in Santa Ana.

Fisher, who's designed some of

See LIGHTS on A8



A clear plastic overlay with black numbers indicating the speed limit has been placed on one of the green lights in a traffic signal on Gonzales Road at Snow Avenue. Police hope the indicators will encourage motorists to obey the speed limit.

Rob Varela / Star staff

Some L.A. cities are awaiting Oxnard's results

LIGHTS
From A1

the equipment that goes inside police cars, drove a Ford Crown Victoria.

"From the outside, the car looked exactly like what the police use," he said.

In fact, many motorists thought Fisher's vehicle was a police car, and they would slow down as he approached them during his commute.

Fisher noticed that many motorists would then look around for a speed limit sign in vain.

"Many people get speeding tickets because they don't know what the local speed limit is,"

said Fisher, a mechanical engineer. And when there is a speed limit sign, it may be hidden behind foliage or other objects.

A traffic signal speed limit indicator should go a long way toward solving this problem, he said.

Oxnard police will start gathering data on how effective the new indicators are once workers have installed them at five intersections on Gonzales Road.

They've already placed one at Snow Avenue and Gonzales. The others will go where Gonzales Road intersects Rose Avenue, Williams Drive, Outlet Center Drive and Solar Drive.

Fisher said other cities, including Burbank and Glendale, are eagerly awaiting Oxnard's results.

"I would like to see this on every green light in the United States," he said.

Cole said the city chose Gonzales Road because it has a uniform 45-mph speed limit.

Motorists also tend to speed on Gonzales, he said.

This not only has led to a lot of accidents along Gonzales Road but also to more traffic backups there, he said.

"The traffic signals are timed so that traffic can go through each intersection on a green light" provided it's moving along at 45 mph, he said.

He said the new speed limit indicators will cost the city nothing. Fisher has provided them free of charge.

Cole said Oxnard notified state and federal officials of the change to the traffic lights in keeping with the law.

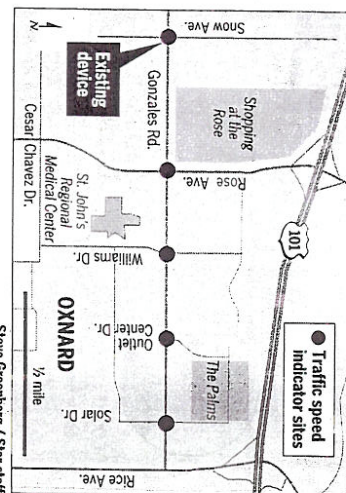
Chad Dornisle, a founding director of the nonprofit Best Highway Safety Practices Institute, said this isn't enough.

"Every traffic device on the road is regulated by the federal government," Dornisle said.

"You can't be adding devices like this to traffic lights unless you have their permission."

As to the device itself, Dornisle agrees motorists should obey the speed limit. But he questions the wisdom of placing a sign, however simple, over a traffic light.

"It will cause more confusion,"



Steve Greenberg / Star staff

Discussion Items:

06-12 No Parking Signs

The City of San Francisco want to discuss signs which are not covered in the CA MUTCD. For detail see Attachment "A".

07-9 California MUTCD – Procedure for updating the document.

Need to discuss the different methods involved and recommend the best approach to handle future revisions to the California MUTCD. Currently, the practitioners and topic specific experts have varying understanding of how the future revisions should occur.

Current Procedure:

The California Supplement became effective in May 20, 2004 and this document itself was never revised until it got replaced by the California MUTCD on September 26, 2006. All recommended changes, once approved, were incorporated into the draft versions of the California MUTCD and they became effective only on September 26, 2006. However, certain other recommended changes which were deemed to be more critical and needed quicker implementation were made official through Caltrans Traffic Operation Policy Directives (TOPDs), memos or letters with specific effective dates or in some cases immediately on the day the document was signed.

Alternatives:

1. Do Nothing. California MUTCD isn't revised until CTCDC makes a recommendation, or revisions are required due to release of a new MUTCD or numerous other significant changes have been recommended for incorporation. Any critical revisions are handled via TOPDs, memos or letters for timely dissemination without the need to replace California MUTCD. Post the Errata List and update it frequently.
2. Issue Transmittal Letters (Traffic Manual) – A transmittal letter is attached to the revised pages explaining the nature and background of the change. The revised pages then replace all existing obsolete pages.
3. Revise the California MUTCD pages affected and change date on the bottom of the affected and revised page to the date when the revision was made. The page number for each following page will change as will the date for that individual chapter.
4. Revise the California MUTCD online in real time as and when the changes get recommended and approved. This ensures that the online manual is the most current at any given time but loses familiarity as it becomes a moving target. It also burdens the practitioners who prefer hardcopies.

07-10 Application of IRWLs at Yield controlled intersections

The following issue was raised by City of Pasadena and it merits further discussion and, if needed, a change to the current policy.

Section 4L.02 In-Roadway Warning Lights at Crosswalks**Standard:**

If used, In-Roadway Warning Lights at crosswalks shall be installed only at marked crosswalks with applicable warning signs. They shall not be used at crosswalks controlled by YIELD signs, STOP signs, or traffic control signals.

I can understand not installing the IRWL's at stops and traffic signals but why is it a conflict to install them at Yield controlled approaches? After all, isn't the IRWL's considered a warning device that sends the same message, i.e., YIELD to pedestrians?

Our interpretation of this section is that the paddle signs (R1-6) shown below is equivalent to a yield sign as it instructs motorists to yield to pedestrians, and therefore can not be used with IRWL. Do you agree?

Then my second question is why is IRWL prohibited at YIELD controlled crosswalks when in fact it sends the same message as a YIELD sign would do....



R1-6

Information Items**00-4 Use of Raised Pavement Markers in Transverse Pattern****Background:**

A motion was passed during the February 15, 2001 CTCDC meeting as follows:

MOTION: Moved by John Fisher, second by Wayne Tanda, recommending Caltrans adopt the language on RPMs from the MUTCD 2000 and place it in the State Traffic Manual. Motion carried 7-0.

Caltrans request that the Committee make a recommendation to remove this item from “Caltrans Action Items” because, the CA-MUTCD has adopted the MUTCD language as follows:

Section 3B.15 Transverse Markings**Standard:**

Transverse markings, which include shoulder markings, word and symbol markings, stop lines, yield lines, crosswalk lines, speed measurement markings, speed hump markings, parking space markings, and others, shall be white unless otherwise specified herein.

Guidance:

Because of the low approach angle at which pavement markings are viewed, transverse lines should be proportioned to provide visibility equal to that of longitudinal lines.

Standard:

Pavement marking letters, numerals, and symbols shall be installed in accordance with the Pavement Markings chapter of the “Standard Highway Signs” book (see Section 1A.11).

Crosswalk markings near schools shall be yellow. Refer to CVC 21368 and Part 7.

Support:

Refer to Department of Transportation's Standard Plans for pavement marking letters, numerals and symbols. See Section 1A.11 for information regarding this publication

02-3 RIGHT EDGELINE**Summary:**

A motion was passed during the May 8, 2002 CTCDC meeting as follows:

MOTION: Moved by Wayne Tanda, seconded by Farhad Mansourian, adopting the proposed verbiage with amendment as follows:

“ In general, raised pavement markers should not be used to supplement the right edgeline. The use of raised pavement markers on the right edgeline may lead the motorists to believe there is another lane to the right of the markers. If either retroreflective or non-reteroreflective raised pavement markers are used on a right edgeline, an engineering study should be conducted documenting the reasons for their use and the marking should be consistent with the guidelines contained in the Traffic Manual.”

Motion passed 8-0.

Caltrans request that to the Committee make recommendation to remove this item from the “Caltrans Action Items” because Caltrans does not believe that California adopt different guidelines to the MUTCD. The following language is from the CA MUTCD and it says, “Raised pavement markers should not substitute for right edge line markings” which is consistent to the motion language and to the MUTCD.

Section 3B.06 Edge Line Pavement Markings**Standard:**

If used, edge line pavement markings shall delineate the right or left edges of a roadway.

Except for dotted edge line extensions (see Section 3B.08), edge line markings shall not be continued through intersections or major driveways.

If used on the roadways of divided highways or one-way streets, or on any ramp in the direction of travel, left edge line pavement markings shall consist of a normal solid yellow line to delineate the left edge of a roadway or to indicate driving or passing restrictions left of these markings.

If used, the right edge line pavement markings shall consist of a normal solid white line to delineate the right edge of the roadway.

Section 3B.14 Raised Pavement Markers Substituting for Pavement Markings**Guidance:**

Raised pavement markers should not substitute for right edge line markings.